

REMARKS

The present invention is directed to a reproducing apparatus or a program which lowers the production costs of BD-ROM by enabling BD-ROM producers to produce BD-ROMs without exhaustively debugging the BD-ROM. Instead of merely filling a shell program screen with data for an interactive program guide ("IPG"), the present invention can be embodied in a playback apparatus 200 such as a DVD player to enable debugging of a BD-ROM. The playback apparatus 200 not only plays back the BD-ROM, but also validates and debugs the BD-ROM to allow the execution of the BD-ROM despite the presence of errors in the BD-ROM. For example, the playback apparatus 200 can reconfigure the presentation of information to a viewer when an erroneous instruction from the BD-ROM is received to ensure that the BD-ROM remains operable despite the presence of the erroneous instruction.

It accomplishes this by using a transition control unit 30 in a playback apparatus 200 to determine whether values stored in the PSR is valid, invalid, or undefined. PSR10, for example, specifies one of the plurality of buttons. (Pg. 67, lns. 21 – 22) As seen in FIG. 58B, the present invention determines whether a default selected button is valid or not when a playback condition changes in step S161. If the default selected button is valid, the transition control unit 30 stores the default selected button in PSR10 in step S162. Otherwise, if the default selected button value is invalid, a judgment is made as to whether the button value stored in the SPR10 is valid or invalid in step S163. If the button value stored in PSR10 is valid, then the button value is maintained in Step S164. Otherwise, the transition control unit 30 stores a button number of the first button in the current Page in PSR10 in Step S165. (Pg. 84, ln. 26 – Pg. 85, ln. 9) The present invention catches invalid button values.

Thus, in the present invention, an independent movie producer producing BD-ROMs does not need to exhaustively debug the BD-ROM to ensure all of the interactive buttons in a movie contained within the BD-ROM are valid. (Pg. 82, lns. 13 – 22)

Applicant has cancelled Claims 1- 8 and added Claims 9 – 13. The newly added claims do not add any new matter. Claim 9 includes features from Claim 1. Claim 11 includes features from Claim 6. Claim 12 includes features from Claim 4. Claim 13 includes features from Claim 8.

Support for Claims 9, 12, and 13 can be found, for example, on Page 58 line 12 to Page 61, line 4, Page 64, line 19 to Page 65, line 8, and FIG. 34. Furthermore, additional support can be found, for example on Page 75, line 8 to Page 75, line 22 and FIG. 48.

Support for Claim 10 can be found, for example, on Page 84, line 26 to Page 85, line 9 and FIG. 58B.

The Office Action rejected Claims 1 – 8 as being anticipated by *Russ et al.* (U.S. Pat. App. No. 2004/0060063). As previously noted, Claim 9 includes features from Claim 1. Claim 11 includes features from Claim 6. Claim 12 includes features from Claim 4. Claim 13 includes features from Claim 8.

[T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference's teaching that every claim [limitation] was disclosed in that single reference.

Dayco Prods., Inc. v. Total Containment, Inc., F.3d 1358, 1368 (Fed. Cir. 2003).

Russ is a system that maps media content information from to an interactive program guide displayed on a screen. (Abstract) It teaches a display similar to that displayed when a person depresses a “TV GUIDE” button on a remote control. (FIG. 4) *Russ* does not teach a debugging function and instead only teaches filling a shell with information.

With respect to Claim 9, Russ does not teach or suggest that the button graphics material is obtained from a graphics stream as noted in the claim language below:

“[T]he graphics stream includes one or more interactive control segments and one or more graphics data pieces, each interactive control segment includes a plurality of sets of page information, each set of page information includes one or more button information pieces, each button information piece (i) realizes an interactive screen structure by displaying each graphics data piece as a state of a corresponding graphics button material, and (ii) includes a set command.”

In *Russ*, the interactive program guide (“IPG”) application 394 is a software product embedded in the digital home communication terminal (“DHCT”) 16 as shown in FIG. 3A. (¶ 0079). Thus, the IPG application 394 is not provided to an apparatus while embedded in a graphics stream. Instead, the IPG application 394 is already embedded within the DHCT 16. Thus, *Russ* switches pages and buttons based on commands residing within the DHCT 16 instead of outside the DHCT 16.

In contrast, in the present invention, a data structure for displaying a plurality of pages and buttons are provided in the interactive graphics stream (“IG stream”). (Pg. 58, lns. 22 – 23). The IG stream includes an ODS, which is graphics data for displaying a button graphically. (Pg. 58, lns. 24 – 27) The IG stream is located within the AV Clip supplied from a BD-ROM. (Pg. 10, lns. 14 – 15) Thus, the BD-ROM supplies the graphics button material to a playback apparatus 200 and the playback apparatus 200 does not self-supply the graphics button material.

Russ also does not teach or suggest

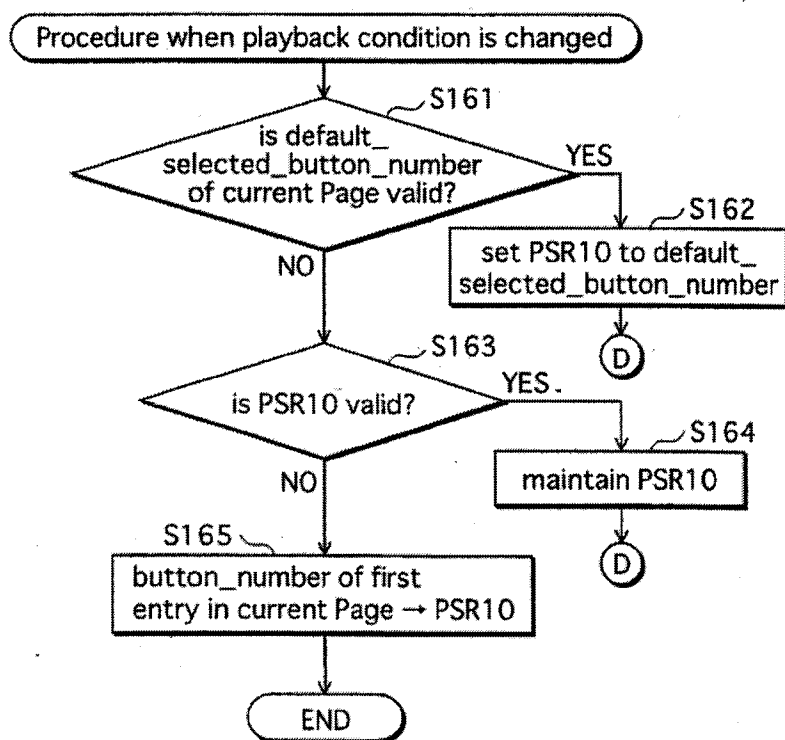
[A] transition control unit executing a predetermined procedure . . . the predetermined procedure includes (i) judging whether the button number in the button number register is an invalid button number that does not exist in one of the sets of page information that corresponds to the current page, and (ii) if the button number is the invalid button number, setting the button number register to an alternative button number.

The Office Action on Page 2 cited to Paragraph 0096 in *Russ* for the features of the present invention. Although *Russ* allows the user to interact with the IPG 394, there is no indication that it judges whether the IPG screen selected by the user is valid or not. For example, when the user highlights the Barney episode shown in the top row of the list block 1120 and has selected the record options button icon 122, a records option screen 1200 is shown overlaid on a grayed out recording schedule screen 1100. (¶¶ 0096 – 97) However, there is no indication that the IPG application 394 judges to determine whether there is a valid or invalid button number. The IPG 394 application does not test whether the records option screen 1200 will be a valid screen. The IPG application 394 merely assumes that it will be a valid screen.

Furthermore, *Russ* does not even recognize the problem solved by the present invention. This is because the IPG application 394 generates the IPG screen. Therefore, there is no need for the IPG application 394 to test whether the records option screen 1200 is valid or not because it is generated by the IPG application 394. It would be unlikely for the IPG application 394 to generate an erroneous screen since it creates the screen.

In contrast, in the present invention the graphics button material is contained within a BD-ROM 100. The BD-ROM 100 is created by an entity aside from the manufacturer of the playback apparatus 200. Thus, when a playback condition has changed, a transition control unit 30 determines whether the default button number is valid and if it is invalid, it also determines whether the stored button in PSR10 is valid or not, either. This can be seen, for example in 58B reproduced below:

FIG.58B



Thus, the transition control unit 30 determines whether default selected button is valid or not in Step S161 and if it is invalid, the transition control unit 30 also determines whether the button value stored in PSR10 is valid in Step S163. If the button value stored in PSR10 is also invalid, then the transition control unit 30 changes the button value in PSR10, for example, to a button number of the first entry in the current page. (Pg. 84, ln. 26 – Pg. 85, ln. 8)

This is beneficial because the BD-ROM 100 is from a third party that is not associated with the manufacturer of the playback apparatus 200. This allows the movie producer of the BD-ROM 100 to not have to exhaustively run diagnostic checks on the information stored in the BD-ROM 100 prior to its commercial release. For example, an independent movie producer of an interactive movie may have a limited budget with which to distribute a movie on a BD-ROM. Thus, the present invention allows the independent movie producer to produce the BD-ROM without exhaustively running diagnostic checks because the playback apparatus 200 can handle

errors within the BD-ROM – effectively lowering the cost of production for the independent movie producers. By reducing the cost of production more independent movie producers will produce BD-ROMs allowing for more creatively.

All arguments for patentability with respect to Claim 9 are repeated and incorporated herein for Claims 11, 12, and 13.

Furthermore, with respect to Claim 10, *Russ* also does not teach or suggest “the alternative button number is a first number out of valid button numbers in a set of page information that corresponds to the current page.” Since *Russ* does not determine whether the button number is valid or not, it also does not suggest a replacement button number.

In contrast, as seen in Step S165 of FIG. 58B, if PSR10 is invalid, PSR10 is set to a button number of the first button_info structure in the current page. (Pg. 85, lns. 6 – 8; FIG. 58B).

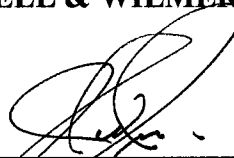
Dependent Claims 10 and 11 also depend from and further define Independent Claim 9 and are thus allowable, too.

It is submitted that the present application is now in condition for allowance and an early notification of the same is requested.

If the Examiner believes a telephone interview will help further the prosecution of the case, the undersigned attorney can be contacted at the listed telephone number.

Very truly yours,

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